

RECEIVED

- CENTRAL FAX CENTER
MAR 1 9 2004

MAR 1 9 2004

OFFICIAL

Re: U.S. Patent Application No.

Title: 5-Aryltetrazole Compounds, Compositions Thereof, and Uses Therefor

10/620,619 filed

First Inventor: Alex Nivorozhkin

Examiner: To Be Assigned

Group Art Unit: 1616

07/17/2003

Attorney Docket No.: 289591.136 US1

Certificate of Transmission under 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office to:

TC 1600 Before Final (703) 872-9306

3 19 2004

Signature

Erica M. Brauer

Typed or printed name of person signing Certificate

Note: Each paper must have its own certificate of transmission, or this certificate must identify each submitted paper.

Document No. Pgs.
Information Disclosure Statement 1

PTO 1449 List of References 5

Total Number of Pages (including this Certificate of Transmission)

7

PAGE 217 * RCVD AT 31912004 1:32:33 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-116 * DNIS:8729306 * CSID:2129377300 * DURATION (mm-ss):02-06

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

Nivorozhkiu et al.

Examiner:

To Be Assigned

U.S. Serial No.:

10/620,619

Art Unit:

1616

Filing Date:

July 17, 2003

For:

5-Aryltetrazole Compounds, Compositions Thereof, and Uses Therefor

Docket No.:

289591.136 US1 (formerly 11078-029-999)

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

SIR:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicants bring to the attention of the Examiner the references AA through DN listed on the attached PTO-1449 Form.

References AA through DN were previously submitted to or cited by the Patent Office in connection with parent application U.S. Serial No. 10/197,609, filed July 18, 2002, which applicants rely on for an earlier effective filing date under 35 U.S.C. § 120. Accordingly, applicants have not provided a copy of the references herewith. Should the Examiner desire a copy of any of the references AA through DN, applicants would be glad to provide a copy.

It is respectfully requested that the Examiner make references AA through DN of record by initialing and returning a copy of the enclosed PTO Form 1449 with the next Patent Office communication.

No fees are believed to be due in connection with the filing of this Information Disclosure Statement. However, the Commissioner is authorized to debit any necessary fee or credit any overpayment relating to the above-identified application to Deposit Account No. 08-0219.

Date: March 19, 2004

Respectfully submitted,

Matthew E. Langer

Registration No. 36,343 Attorney for Applicants

Hale and Dox LLP 300 Park Avenue New York, New York 10022 (212) 937-7227-Phone (212) 937-7300-Facsimile

NEWYORK 88664v1

PAGE 317 * RCVD AT 3119/2004 1:32:33 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:2129377300 * DURATION (mm-ss):02-06

Subt. For, PTO-		N DISCLO	SURE	Docket Number Application Number 289591.136 US1 10/620,619				
IN AN APPLICATION (Use several sheets if necessary)			V	Applicant Nivorozhkin et al.				
1000	. Do of Gran	DUIC // 1100 000		Filing Date	Group Art Unit			
Sheet	1	OF	5	July 17, 2003	1616			

EXAMINER INITIAL		DOCUMENT NUMBER		ATE		OCUMENTS NAME	CLAS	SUBCLASS	FILIN	IG DATE
INITIAL.		NOMBER						,	APPR	OPRIATE
i	AA	6,277,998	8/21	/2001		Ushio		·		
	AB	6,191,289	2/20	/2001		Ushlo				
	AÇ	5,874,593	2/23	/1999		Ushio			<u> </u>	
	AD	5,284,954	2/8/	1994	W	ittenberger				
	AE	6,388,088	5/14	/2002		Sidduri	1		<u> </u>	
,	AF	5,049,572	9/17	/1991	So	herrer et al.				
	AG	5,232,937	8/3/	1993	Me	kovec et al.			J	
;	AH	5,364,869	11/18	J/1994		De et al.				
A*****	Aí	5,663,357	9/2/	1997	ו	eng et al.				
	AJ	5,976,576	11/2	/1999	Ma	kovec et al.				
	AK	6,297,261	10/2	/2001	Christ	opherson et al.				
	AL	6,417,393	7/9/	2002	Christ	Christopherson et al.				
	AM	2002/0032210	8/1/	2002	F	into et al.				
	AN	2002/0032210	3/14	/2002	1	Sahi et al.				
,	AO	2002/0037905	3/28	/2002		Dahletaj.				
	AP	6,696,479	2/24	/2004	Van D	er Schaaf et al.				
	AQ	6,706,749	3/16	/2004	-	Dahl et al.				
1			Fore	ian P	atent	Documents	3			
XAMINER		DOCUMENT			TE	COUNTRY	CLAS\$	SUBCLASS		SLATION
INITIAL	<u> </u>	NUMBER							YES	NO
!	AR	WO 02/00647		1/03/20		PCT				
<u>. </u>	AS	WO 01/85705		11/15/2	2001	PCT				_
	AT	0638553		7/26/19	994	Europe	<u>_</u>			
	AU	WO 90/09989		9/7/19	90	PCT				
	ΑV	WO 93/16053		8/19/19	93	PCT				
	AW	WQ 98/58522		12/23/	1998	PCT				
	AX	WO 99/24442		5/20/19	999	PCT		<u> </u>		
:	AY	WO 00/16798		3/30/2	000	PCT				_
i	AZ	WO 00/24707		5/4/200	00	PCT				
XAMINER ;						ATE CONSIDE	RED			

PAGE 4/7 * RCVD AT 3/19/2004 1:32:33 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:2129377300 * DURATION (mm-ss):02-06

****	,													
Subt. For, F	TO-144	9							et Numbe				ation Nu	
IN	FORK	ΛΔΤΙ	ON I	DISCH	OSLIBE	=	}	28959	1.136	US1	j j	10/	620,6	19
154	INFORMATION DISCLOSURE IN AN APPLICATION					Applicant								
	1111			IOA I N	J14				N	voroz	hkin et	al.		
(Use se	veral	shee	ts if nec	essary)									
								,	ing Date		7		Dup Art U	Init
Sheet		2	ľ	OF		5		July	17, 20	03	Ì		1616	
									•					
	E	3A	wo	00/28979		5/25/200	0	PCT				ſ		
	ŧ	B	wo	00/64888		11/2/200	0	PCT						
	E	3C	wo	01/66098		9/13/200	1	PCT				_		
	- E	3D	WO	02/00647		1/3/2002		PCT						
				/		A							-1-\	
ļ	Othe	FL DO	cum	ents (Includir	ng Auu	ior,	Title, L	ate, F	enine	nt Pag	es, e	erc.)	niugatod
	BE	SOD	eral., i , Scien	oxygen n ice. 1989	May 26;24	11111611221-11 14(4907):9	74-6.	o banıoğar	iesis anu	nasmuéi	ıt wini băt	an po	ymer-co	uluğaret
	BF	Tan et al. Xanthine oxidase activity in the circulation of rats following hemorrhagic shock, Free Radic Biol Med. 1993 Oct; 15(4):407-14.												
	ВG	McCord J.M., Oxygen-derived free radicals in postischemic tissue Injury, N Engl J Med. 1985 Jan 17;312(3):159-63.												
	вн	Miesel et al., "Effects of allopurinol on in vivo suppression of arthritis in mice and ex vivo modulation of phagocytic production of oxygen radicals in whole human blood", Inflammation. 1994 Dec; 18(6):597-612.				of 612.								
	ВІ			t al., Con 564-70.	version of a	xanthine d	lehydi	ogenase t	o oxidase	in ischei	nic rat tis:	L,asua	Clin Inv	est 1987
	8J	Akak in mi	le et al ce,J C	I., Depend lin Invest.	lence on C 1990 Mar)2- genera 85(3):739	tion b -45.	y xanthine	oxidase	of pathog	genesis of	influe	nza virus	Infection
	ВК	Keta	et al.,	Am Rev.	Resp. Dis.	136:98-1	Q1							
 I.	BL	respi	acsi et ratory (316(3):	burst and	ophils obta increased	lined from degranula	oblite ation is	rative athe n response	eroscierot to variou	c patient is stimuli	s exhibit e , Biochim	nhand Biophy	ed restir ys Acta.	ng 1996 Aug
	вм	Mar;	136(3):	491-5.	reperfusio									
,	BN	Jul;1	35(1):2	203-17.	histamine,									thol. 1989
1	во	Parks et al., Role of oxygen free radicals in shock, Ischemia, and organ preservation. Surgery. 1983 Sep;94(3):428-32.												
	ВР	bloct	remica	i changes	oxidant cha .Am Rev F	Respir Dis.	1992	Nov;146(5 Pt 1):12	72-8.				
	BQ	Card	lol. 198	85 Feb;17	thine oxida (2):145-52	l.								•
,	вя	Delto	h et al ivation	., Hemorr Surgery.	hagic shoc 1966 Aug;	k-induced 104(2):19	bacte 1-8.	erial transk	cation is	reduced	by xanthii	ne oxio	lase Inhl	bition or
	BS	oxida	ıml et e se act 5(5):32	ivity to loc	heterogeni alization o	eity of hep if neutroph	oztic Ir nil acc	lury follow umulation	ring shock and centi	rissuscii el lobula	ation: rela r necrosia	tionsh , Shoc	ip of xar k. 1996	ithine

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citation if not conformance and not considered. Include copy with	on is in conformance with MPEP § 609: Draw Line through

PAGE 5/7 * RCVD AT 3/19/2004 1.32:33 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:2129377300 * DURATION (mm-ss):02-06

Subt. For, PTO-1449 INFORMATION DISCLOSURE				Docket Number Application Number 289591.136 US1 10/620,619		
IN AN APPLICATION (Use several sheets if necessary)				Applicant Nivorozhkin et al.		
, , ,		_		Filing Date	Group Art Unit	
Sheet	3	QF.	5	July 17, 2003	1616	

та	Hemoningo chould have been (c)
В	Zollei, I., Experimental study of hypovolaemic shock-induced gastric mucosal lesions in the rat. Ann Acad Med Singapore. 1999 Jan;28(1):85-9.
BV	Flynn et al., Allopurinol plus standard resuscitation preserves hepatic blood flow and function following hemorrhagic shock. J Trauma. 1994 Dec;37(6):956-61.
ву	Modelska et al., Inhibition of beta-adrenergic-dependent alveolar epithelial clearence by oxidant mechanisms after hemorrhagic shock. Am J Physiol. 1999 May;276(5 Pt 1):L844-57.
ВХ	Flynn et al., Xanthine oxidase inhibition prevents mesenteric blood flow deficits after resuscitated hemonhagic shock by preserving endothellal function. J Surg Res. 1997 Mar;68(2):175-80.
BY	Mannion et al., Role of xanthine oxidese inhibition in survival from hemorrhagic shock. Circ Shock. 1994 Jan;42(1):39-43.
BZ	Cunningham and Keaveny, Effect of a xanthine exidese Inhibitor on adenine nucleotide degradation in hemorrhagic shock. Eur Surg Res. 1978;10(5):305-13.
C/	Youn et al., Oxidants and the pathophysiology of burn and smoke inhalation injury. Free Radic Biol Med. 1992;12(5):409-15.
CE	Deitch et al., A study of the relationship among survival, gut-origin sepsis, and bacterial translocation in a model of systemic inflammation.J Trauma. 1992 Feb;32(2):141-7.
C	Anderson et al., Hypovolemic shock promotes neutrophil sequestration in lungs by a xanthine oxidase-related mechanism. J Appl Physiol. 1991 Nov;71(5):1862-5.
C	Pogetti et al., Simultaneous liver and lung injury following gut Ischemia is mediated by xanthine oxidase. J Trauma. 1992 Jun;32(6):723-7; discussion 727-8.
Ci	Double 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CI	Schwartz et al., Xanthine oxidase-derived oxygen radicals increase lung cytokine expression in mice subjected to hemorrhagic shock. Am J Respir Cell Mol Blol. 1995 Apr;12(4):434-40.
C	Crowell et al., Effect of allopurinol on hemorrhagic shock. Am J Physiol. 1969 Apr;216(4):744-8.
CI	Linder et al., Cellular expression of xanthine oxidoreductase protein in normal human tissues. Lab Invest. 1999 Aug;79(8):967-74.
CI	Saksela et al., Xanthine oxidoreductase gene expression and enzyme activity in developing human tissues. Biol Neonate. 1998 Oct;74(4):274-80.
C.	Transfer of the contract of th
C	"" " " " " " " " "
C	Fox et al., Immunohistochemical localization of xanthlne oxidase in human retina. Free Radic Biol Med. 1998 Apr;24(6):900-5.

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citat citation if not conformance and not considered. Include copy with	l ion is in conformance with MPEP § 609: Draw Line through next communication to applicant.

PAGE 6/7 * RCVD AT 3/19/2004 1:32:33 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:2129377300 * DURATION (mm-ss):02-06

Subt. For, PTO-1449 INFORMATION DISCLOSURE				Docket Number Application Number 289591.136 US1 10/620,619			
IN AN APPLICATION (Use several sheets if necessary)				Applicant Nivorozhkin et al.			
, , ,	-		•,	Filing Date	Group Art Unit		
Sheet	4	OF	5	July 17, 2003	1616		

		The state of the s
	СМ	Rouquette et al., Xanthine oxidoreductase le asymmetrically localised on the outer surface of human endothelial and epithelial cells in culture. FEBS Lett. 1998 Apr 24;426(3):397-401.
	CN	Cardillo et el., Xanthine oxidase inhibition with oxypurinol improves endothellel vasodilator function in hypercholesterolemic but not in hypertensive patients. Hypertension. 1997 Jul;30(1 Pt 1):57-63.
	co	Page et al., Xanthine oxidoreductase in human mammary epithelial cells: activation in response to inflammatory cytokines. Blochim Biophys Acta. 1998 Jul 23;1381(2):191-202.
	СР	Zhang et al., Generation of nitric oxide by a nitrite reductase activity of xanthine oxidase: a potential pathway for nitric oxide formation in the absence of nitric oxide synthese activity. Biochem Biophye Res Commun. 1998 Aug 28:249(3):767-72.
<u> </u>	ço	Trujillo et al., Xanthine oxidase-mediated decomposition of S-nitrosothiols. J Biol Chem. 1998 Apr 3;273(14):7828-34.
	CR	Goldfinger, S.E., Treatment of gout. N Engl J Med. 1971 Dec 2;285(23):1303-6.
	CS	Buchanan et al., Hypocholesterolemic 5-substituted tetrazoles. J Med Chem. 1969 Nov;12(6):1001-6.
	ст	Shukla and Rastogi, Studies on neuropharmacological and biochemical properties of 5-substituted tetrazoles. Indian J Physiol Pharmacol. 1981 Oct-Dec;25(4):369-73.
	CU	Springer et al., 1916, J. Med. Chem. 19, 291: U.S. Patent No.: 4,021,556
	CV	Skipper et al., inhibition of experimental reoplasms by 4-aminopyrazolo (3, 4-d) pyrimidine. Proc Soc Exp Biol Med. 1955 Aug;89(4):594-6.
	cw	Demko and Sharpless, Preparation of 5-substituted 1H-tetrazoles from nitriles in water. J Org Chem. 2001 Nov 30;66(24):7945-50.
	СХ	Butler, R.N., Comprehensive Heterocyclic Chemistry, Katritsky, et al., Eds., Pergamon: Oxoford, U.K., 1996, Volume 4.
	CY	Isida et al., The Formation of Tin-Nitrogen Bonds, V. The Selective 1-Substitution Reaction of 5-Substituted 1-(Tri-n-butylstannyl tetrazoles) with Methyl Iodide, Methyl p-Toluenesulfonate, Dimethyl Sulfate, and Ethyl Bromoacetate. Chemical Society of Japan, Vol. 46, 2176-2180.(1973)
	cz	Rosenbaum et al., 1992, "Thermolyse von 1-Thiocarbamoyl-5-phenyl-tetrazolen", J. Prakt. Chem. 334:283-4.
	DA	Yu E. Myznikov et al., Tetrazoles XXV. Production of N-Benzoyltetrazoles and their Chemical Characteristics
	DB	A. Konnecke et al., 1976, Tetrahedron letters, No. 7, 533-536.
	DC	Oslpova et al., Tetrazoles, XIX Acytation of Tetrazoles under the Conditions of Phase-Transfer Catalysis
	DD	Jursic B.S., 1993, "Acytetrazole As an Intermediate for Preparation of Carboxylic Acid Derivatives", Synthetic Communications, 29(3):361-4.
	DE	Ishlbuchi et al., Synthesis and Structure- Activity Relationships of 1-Phenylpyrazoles as Xanthine Oxidase Inhhibitors' Blorganic and Medicinal Chemistry Letters, V. 7, 4 pgs.
	DF	Nagamatsu et al., "Novel xanthine oxidase inhibitor studies. Part 2. Synthesis and xanthine oxidase inhibitory activities of 2-substituted 6-alkyl-idenehydrazino- or 6-arylmethylidenehydrazino-7H purines and 3- and/or 5-substituted 9H-1,2,4-triazoleo [3,4-1] purines", Faculty of Pharmaceutical Sciences, Okayama University, Tsushima, Okayama, 700-8530, Japan.

١	EXAMINER	DATE CONSIDERED .
l		
	EXAMINER: Initial If citation is considered, whether or not citation if not conformance and not considered. Include copy with	

PAGE 7/7 * RCVD AT 3/19/2004 1:32:33 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/6 * DNIS:8729306 * CSID:2129377300 * DURATION (mm-ss):02-06

INFORMATION DISCLOSURE				Docket Number Application Number 289591.136 US1 10/620,619			
	N AN API several sh			Applicant Nivorozhkin et al.			
				Filing Date	Group Art Unit		
Sheet	5	QF	5	July 17, 2003	1616		

 DG	Baldwin et al., 1975, "4-Trifluoromethyllmidazoles and 5-(4-Pyridyl)-1,24-triazoles, New Classes of Xanthine Oxidase Inhibitors: J. Of Med. Chemistry, v. 18 no. 9.
DH	J. of Org. Chem of the USSR, Russian Original Vol. 20., no. 5, Part 2, May 1984.
DI	Czuczwar et al., A potential anti-asthmatic drug, CR 2039, enhances the anticonvulsive activity of some antiepileptic drugs against pentetrazol in mice. Eur Neuropsychopharmacol. 1998 Aug;8(3):233-6.
 ΩJ	Czuzwar et al., Influence of a potential anti-asthmatic drug, CR 2039, upon the anticonvulsive activity of conventional antiepileptics against maximal electroshock-induced seizures in mice. J Neural Transm. 1996;103(12):1371-9.
DK	Makovec F., Antiallergic and cytoprotective activity of new N-phenylbenzamido acid derivatives. J Med Chem. 1992 Oct 2;35(20):3633-40.
 DŁ	Revel et al., CR 2039, a new bis-(1H-tetrazol-5-yl)phenylbenzamide derivative with potential for the topical treatment of asthma. Eur J Pharmacol. 1992 Dec 8;229(1):45-53.
 DM	Revel et al., Pharmacological profile of CR 2039 (Dizolast) a new agent for the treatment of allergic diseases, Life Sciences, 229:273-7. 1992.
DN	Persiani et al., Pharmacokinetics of andolast after administration of single escalating doses by inhalation in mild asthmatic patients. Biopharm Drug Dispos. 2001 Mar;22(2):73-81.

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP § 609: Draw Line through citation if not conformance and not considered. Include copy with next communication to applicant	